



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/503,925	02/14/2000	Jae-Yoel Kim	678-456(P9158)	7284

7590

05/04/2004

Paul J. Farrell
Dilworth & Barrese
333 Earle Ovington Blvd
Uniondale, NY 11553

EXAMINER

GEORGE, KEITH M

ART UNIT

PAPER NUMBER

2663

13

DATE MAILED: 05/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/503,925

Applicant(s)

KIM ET AL.

Examiner

Keith M. George

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 9, 16 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claims 1, 9, 16 and 24 recite the limitation "the system" in line 9 of each of the claims.

There is insufficient antecedent basis for this limitation in the claim. It is unclear if "the system" refers to the first or second CDMA communication system.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5-7, 9-14, 16-18, 20-22 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen, U.S. Patent 5,751,761, hereinafter Gilhousen, in view of Minn et al., U.S. Patent 6,088,347, hereinafter Minn.

6. Referring to claims 1, 5, 16, 20, 31 and 37, Gilhousen teaches that signals are communicated between a cell-site and mobile units using direct sequence spread spectrum

Art Unit: 2663

communication signals and that code assignments are made on the basis of channel data rates in a manner which results in improved utilization of the available frequency spectrum (column 3, lines 19-21 and 26-28). Gilhousen goes on to teach that if orthogonality is to be maintained between a set of user channels assigned Walsh codes, the codes associated with branch-connected nodes in the Walsh tree may not be simultaneously utilized. That is, neither longer code sequences recursively derived from a give code nor shorter code sequences from which the give code was recursively derived, may be assigned to other communication channels when the give code is in use (column 11, lines 29-37). Gilhousen also teaches that the cell controller would maintain an ASSIGNED list of the set of codes already assigned to particular user channels and would further include a separate "BUSY" list having an entry for each possible Walsh code. Each of the entries in the BUSY list corresponding to codes currently included in the ASSIGNED list would then be marked as being busy. In addition, all entries within the BUSY list corresponding to codes recursively related to those indicated as being busy would also be marked as being busy. Next, the BUSY list would be searched for an available code having a chip length appropriate for the data rate of the requesting channel. Upon identification of a code of suitable length, the controller would assign the identified code to the requesting channel (column 12, lines 20-40). Gilhousen teaches all of the above with the possible exception of explicitly stating that the Walsh codes could be associated with two CDMA communications systems. Gilhousen also does not teach that this would not be an acceptable configuration. In an explanation of Gilhousen, Minn teaches that the assignment of a parent Walsh code to a VSG-CDMA user prohibits the assignments of its derivative codes to two STD-CDMA users (column 6, lines 5-7). Minn is clearly teaching Gilhousen can be used to assign Walsh codes to two

Art Unit: 2663

CDMA communications systems. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use the teachings of Gilhousen on multiple communications systems as taught by Minn. One of ordinary skill in the art would have been motivated to do this to support higher information rates for non-voice communications by using lower dimensional Walsh codes for Walsh mapping (Minn, column 5, lines 57-60).

7. Referring to claims 2, 17, 32 and 38, Gilhousen and Minn teach the device as described in claims 1 and 16 above and Gilhousen also teaches the Walsh tree representation of figure 2 set forth in table 1.

8. Referring to claims 3 and 18, Gilhousen and Minn teach the device as described in claims 1 and 16 above and Minn also teaches that existing mobile units may be incorporated into a variable data rate CDMA cellular system (column 19, lines 14-15). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art that if existing mobile units that did not utilize variable data rate CDMA were used in a network that did utilize variable data rate CDMA, it would be a requirement to identify which device is communicating so that the appropriate signaling can be sent. One of ordinary skill in the art would have been motivated to do this because the cell-to-mobile and mobile-to-cell links need not be capable of accommodating an identical set of data rates (Minn, column 19, lines 8-10).

9. Referring to claims 6, 7, 21 and 22 Gilhousen and Minn teach the device as described in claims 5 and 20 above and Minn also teaches that IS-95 is referred to as STD-CDMA (column 4, lines 62-64) and it is also clear that VSG-CDMA, which allows for higher data rates than STD-CDMA is a next generation CDMA communications system.

Art Unit: 2663

10. Referring to claims 9, 12, 24, 27, 34 and 40, Gilhousen and Minn teach the device as described in claim 5 above and Gilhousen also teaches that when a call is initiated within the PSTN, the controller transmits the call information to all the cell-sites in the area. The cell-sites in return transmit a paging message within each respective coverage area that is intended for the called recipient mobile user (column 4, line 65 – column 5, line 10).

11. Referring to claims 10, 25, 35 and 41, Gilhousen and Minn teach the device as described in claims 9 and 24 above and Gilhousen also teaches the Walsh tree representation of figure 2 set forth in table 1.

12. Referring to claims 11 and 26, Gilhousen and Minn teach the device as described in claims 9 and 24 above and although they possibly fail to explicitly teach that there are multiple paging channels it would be obvious to one of ordinary skill in the art that if multiple mobile users would need to be contacted, it would require multiple paging channels. One of ordinary skill in the art would have been motivated to do this in order to communicate with the correct mobile unit.

13. Referring to claims 13, 14, 28 and 29 Gilhousen and Minn teach the device as described in claims 12 and 27 above and Minn also teaches that IS-95 is referred to as STD-CDMA (column 4, lines 62-64) and it is also clear that VSG-CDMA, which allows for higher data rates that STD-CDMA is a next generation CDMA communications system.

14. Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen and Minn as applied to claims 1 and 16 above, and further in view of Partridge, III, U.S. Patent 5,608,778, hereinafter Partridge. Gilhousen and Minn teach the device as described in claim 1 above and possibly fail to mention that the mobile device should include unique

Art Unit: 2663

number information, although that would be a requirement in the system since communication paths are configured between the base stations and the mobile units. Partridge teaches that a mobile unit transmits its ESN and MIN1 string to the base station for confirmation. The base station detects the ESN and MIN1 strings and determines therefrom the asserted identity of the cellular telephone (column 4, lines 8-10 and lines 16-18). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to uniquely identify each mobile unit as taught by Partridge so that the device of Gilhousen and Minn would be able to establish a communications path with a known device.

15. Claims 8, 23, 33 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen, Minn and Partridge as applied to claims 4 and 19 above, and further in view of Tiedemann, Jr. et al., U.S. Patent 6,256,301, hereinafter Tiedemann. Gilhousen, Minn and Partridge teach the device described in claims 4 and 19 above where they possibly fail to teach the details concerning how an orthogonal code number is selected. Tiedemann teaches a hash ID where the input information of the hash function comprises the electronic serial number of the mobile station (column 5, lines 5-8). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize the hash ID taught by Tiedemann in the device of Gilhousen, Minn and Partridge. One of ordinary skill in the art would have been motivated to do this because although not unique, the length of the hash ID is sufficient to make it extremely unlikely that more than one mobile station operating within the coverage area of a base station will generate the same hash ID and transmit the request portion of an access probe at the same time (Tiedemann, column 4, lines 14-19).

Art Unit: 2663

16. Claims 15, 30, 36 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gilhousen and Minn as applied to claims 11 and 26 above, and further in view of Tiedemann. Gilhousen and Minn teach the device described in claims 4 and 19 above where they possibly fail to teach the details concerning how an orthogonal code number is selected. Tiedemann teaches a hash ID where the input information of the hash function comprises the electronic serial number of the mobile station (column 5, lines 5-8). At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to utilize the hash ID taught by Tiedemann in the device of Gilhousen and Minn. One of ordinary skill in the art would have been motivated to do this because although not unique, the length of the hash ID is sufficient to make it extremely unlikely that more than one mobile station operating within the coverage area of a base station will generate the same hash ID and transmit the request portion of an access probe at the same time (Tiedemann, column 4, lines 14-19).

Response to Arguments

17. Applicant's arguments filed 11 February 2004 have been fully considered but they are not persuasive. Applicant argues on page 11 of the response that although the claims do recite that only those non-orthogonal codes relating to the forward common channel of the first CDMA system are stored, this element have been amended to further clarify this concept, even though, by definition, by limiting the group of non-orthogonal codes that are stored, not all of the non-orthogonal codes are stored. In response, it is not clear from the claim language that "only those non-orthogonal codes relating to the forward common channel of the first CDMA system are stored". The claim, as written, basically states that a storage medium stores orthogonal code

Art Unit: 2663

numbers for the forward common channel of a second CDMA system. The orthogonal code numbers cannot maintain orthogonality because of an orthogonal code that the forward channel uses at a maximum rate. The orthogonal code is used in a first CDMA system. And the number of orthogonal codes stored is less than the total number of codes in a system, however the system is not well defined. The arguments presented do not appear to correspond to the claim language.

18. It should also be noted that the amendment to claims 1, 9, 16 and 24 does not overcome the previously discussed prior art. Gilhousen has been clearly shown to teach an ASSIGNED list of the set of codes assigned to a particular user channel and a separate BUSY list having an entry for each possible WALSH code. Clearly the ASSIGNED list contains a list of code numbers that is less than the total number of code numbers of the system.

19. New claims 31-42 are simply broader interpretations of previously presented claims, therefore the rejections of the previously presented claims also apply to the new claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keith M. George whose telephone number is 703-305-6531. The examiner can normally be reached on M-Th 7:00-4:30, alternate F 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T. Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Keith M. George
29 April 2004



CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

4/30/04